



# *the* **ILLINOIS ENGINEER**



**ANNUAL MEETING**  
**Rockford**  
**March 31, April 1 and 2, 1955**



AIR VIEW OF GREATER ROCKFORD AIRPORT — ROCKFORD IN BACKGROUND

THE ILLINOIS ENGINEER, FEBRUARY, 1955—VOLUME XXXI, NO. 2

Address all communications to the Society at 614 East Green St., Champaign, Illinois.  
The Society is not responsible for statements made or opinions expressed in this publication.

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Affiliated with the National Society of Professional Engineers

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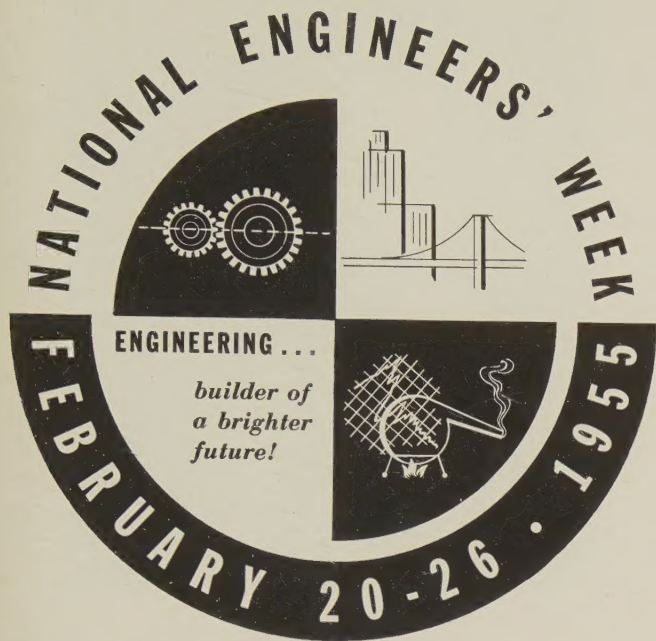
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# Of Interest to I. S. P. E.



## FROM THE PRESIDENT OF THE UNITED STATES

THE WHITE HOUSE  
WASHINGTON, D. C.

December 20, 1954

Dear Mr. Shoch:

*On the occasion of National Engineers' Week I am happy to send greetings to the members of the engineering profession, who have made such a tremendous contribution to our country.*

*The engineer's practical applications of science have done much to make our American standard of living the highest the world has ever known. He has helped promote our national welfare and security and the health, comfort, and prosperity of our citizens. In this technological age the nation's need for his services is constantly expanding. His responsibilities become greater every day, and in spite of manpower shortages, the engineering profession is achieving success in meeting the challenge.*

*Through the National Society of Professional Engineers I extend to all American engineers my congratulations and best wishes. I hope that the program carried on during National Engineers' Week in 1955 will serve to increase our citizens' knowledge and appreciation of their debt to this great profession.*

Sincerely,  
DWIGHT D. EISENHOWER

Mr. Clarence T. Shoch, President  
National Society of Professional Engineers  
1121 Fifteenth Street, N. W.  
Washington 5, D. C.

### W. A. OLIVER RESIGNS AS EDITOR

Professor W. A. Oliver, who has been Editor of the *Illinois Engineer* for the past ten or twelve years requested the Board of Direction at their meeting of January 8, to relieve him of those duties. In making his request, the Editor indicated the pleasure he had had in the performance of his duties throughout the years and expressed his appreciation to his many friends in the Society for their continuous support and cooperation.

### CHAMPAIGN COUNTY CHAPTER PLANS NATIONAL ENGINEERS' WEEK PARTY

The President of the United States is expected to proclaim February 20 through February 26 as National Engineers' Week in honor and recognition of the achievements and public contributions made by all engineers. This is an honor that deserves consideration and attention from all of us. Public recognition and support are expected from daily newspapers, magazines, and radio and television stations. Many outstanding programs have been prepared for National presentation during this week of activity. The major industrial organizations and engineering colleges have been asked to participate and many are planning special events. All in all, the activities of Engineers' Week promise to be very interesting, educational, and quite rewarding in nature.

The Champaign County Chapter of the Illinois Society of Professional Engineers is sponsoring in the name of *all engineers* a gala informal social event, Thursday evening, February 24, with dinner and dancing at the Champaign County Country Club. Dinner will be served at 6:30, and Dick Cisne will provide the musical accompaniment and entertainment from 8 to 11 p.m. There will be tables for those that prefer cards to dancing. Similar parties will be held on the same evening all over the United States with the hope that *all engineers* will participate in the spirit of fellowship and common purpose that naturally bind us together.

J. RAYMOND CARROLL, Program Chairman  
EDWARD R. HEALY, Engineers' Week Committee Chairman

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### READ THE ADVERTISEMENTS

#### SUBSCRIPTION RATES

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Entered as Second Class Matter April 27, 1949, at the Post Office, Champaign, Illinois.

## ANNOUNCING—CAPITAL'S BIENNIAL LEGISLATIVE DINNER IN MARCH, 1955

Everybody is on notice that invitations will go out to all members in the state, through their chapter officers, to attend this gala affair. The exact date cannot be announced until we can set a date when our legislators are in Springfield (sometime around March 17).

Chairman Bill Russell, who saw the 1953 event through to success, is again in the throes of planning.

A bigger banquet hall will be necessary as not one of the 327 seats was vacant last time. What with all 327 coming back, plus all those who heard about it later, we should hit 500 this year.

From Governor Stratton on down, your legislators and those members who were present had a great evening of entertainment (no speeches). Chapter officers are asked to plan your chapter's participation and invite your home district law-makers to this affair as your chapter's guests. It always helps to know them better.

*Capital Chapter Chatter.*

## NEW COMMITTEE CHAIRMEN— CENTRAL ILLINOIS CHAPTER

New committee chairman assignments to date are:

Arrangements, Roger Snelson; Chapter History, Fred Tratzik; Directory, Gerry Hammond; Engineers' Week 1955, Andy Neureuther; Ethics of Practice, A. R. Brown; Inter-Society, Dan Hazen; Legislative Analyst, Dr. R. E. Greenfield; Membership, Gilbert Henning; Picnic, Elmer Tomlinson; Program, Dr. Herman Dorn; Public Relations, Duane Chicoine; Whispers, E. O. Crawford.

Assignments to be made are: Attendance, Engineers' Week 1956, Resolutions, and Ways and Means.

## H. E. HUDSON, JR. TO RECEIVE A.W.W.A. AWARD

The first Water Resources Division Award of the American Water Works Association is to be presented to H. E. Hudson, Jr., Head, Engineering Subdivision, Illinois State Water Survey. The new award, for the outstanding water resource paper published in the Association's Journal during the past year, is based on the report, "Industrial Water Conservation," prepared by Hudson as Chairman of the Association's Committee on Water Use. Hudson is Past-President of the Champaign County Chapter.

## UNIT III AUXILIARY, CHAMPAIGN COUNTY ISPE

**Mrs. John T. Kearns, President**

A very interesting program was presented to the Auxiliary members Tuesday evening, January 25, at the home of Mrs. Francis R. Inskip. A short business meeting was held, where three new members were introduced, Mrs. Jess C. Dietz, and the wives of two new ISPE applicants, Mrs. Thomas H. Thornburn, and Mrs. Kenneth Chase. Professor Ralph L. Cook of Ceramic Engineer-

## NEW PRESIDENT OF ROCKFORD CHAPTER



**WARNER A. JOHNSON**

Mr. Warner A. Johnson, newly-elected President of Rockford Chapter, host to the 70th Annual Meeting, is sales manager for the mercury switches manufactured by the Micro-Switch Division of Minneapolis-Honeywell Corporation. Mr. Johnson's push and enthusiasm will produce results in Rockford Chapter as well as in the promotion of the Annual Meeting program in which he is actively participating.

ing gave an illustrated talk on dinnerware, displaying various samples of beautiful imported china as well as outstanding American lines. Mrs. James Mills, program chairman, arranged the entertainment, and Mrs. P. G. Dierstein, social chairman, assisted by Mrs. Charles Clinard and Mrs. James L. Leach, were hostesses. Mrs. Robert H. Harmeson and Mrs. James G. Clark poured from a beautifully-decorated tea table, carrying out the Valentine theme. Auxiliary members will assist the Champaign County Chapter with the dinner-dance the Chapter is sponsoring at the Champaign Country Club on Thursday evening, February 24, as a grand finale to Engineers' Week activities.

Auxiliary members entertained the wives of out-of-town members attending the Board of Direction meeting January 8, with a luncheon and card party. Out-of-town wives attending were Mrs. J. R. Gardner from Decatur; Mrs. Frank Dunavan, Ottawa; Mrs. L. J. Keenan, Belleville; Mrs. B. P. Johnson, Robinson; Mrs. Dwain M. Wallace, Toulon (Peoria); Mrs. Louis S. Pappmeier, Galesburg; and Mrs. Harry Cordes and daughter, of Dixon.

This month the Auxiliary compiled and mailed a 1955 directory containing the constitutions of both the Champaign County Chapter and Unit III, to the entire membership.

# Tentative Program 70th Annual Meeting

Rockford Chapter is planning an outstanding Annual Meeting for the end of March - - - a Ladies' Program of unusual interest, a fine Men's Program, a Smorgasbord such as only Swedish Rockford knows how to put on, with greeters in native garb, aqua vita and everything else that goes with it. Plan to be there with your wife to meet old friends and help carry on your Society's business.

W. A. OLIVER, Editor

FAUST HOTEL, ROCKFORD, ILL., MARCH 31, APRIL 1 and 2, 1955

## MEN'S PROGRAM

Wednesday, March 30

P. M.  
7:30 Registration opens.  
Welcoming Committee in attendance until  
10:00 p.m.

Thursday, March 31

A. M.  
7:30 Board of Direction breakfast.  
8:00 Registration opens.  
8:30 Board of Direction meeting (open to members of the Society).  
12:00 Luncheon for Board of Direction, members and Rockford engineers and executives. Speaker to be announced on subject of interest to engineers in industry.

P. M.  
2:00 Resumption of Board of Direction meeting.  
2:00-4:00 Inspection trips to  
Greater Rockford airport  
Sanitary District plant  
Central Illinois Electric and Gas Co. generating plant  
J. L. Clark Co. plant  
Woodward Governor Co.  
Riverdahl School Engineering exhibit  
Others if requested.  
5:30-6:45 Cocktail hour at Forest Hills Country Club  
7:00 Smörgåsbord and entertainment at Forest Hills—Rockford Chapter, hosts.

Friday, April 1

A. M.  
8:00 Registration.  
9:00 Annual Meeting of the Society.  
12:00 Luncheon—Address by NSPE President Clarence T. Shoch.

P. M.  
2:00 Resumption of business meeting.  
5:00 Adjournment.  
5:30-6:45 Cocktail Hour at Faust Hotel.  
7:00 70th Annual Banquet at Faust Hotel.  
Address being arranged.

Saturday, April 2

A. M.  
7:30 Board of Direction breakfast.  
8:15 Organization and Meeting of 71st Board of Direction (open to members of the Society).  
12:00 Adjournment—Lunch.

## LADIES' AUXILIARY PROGRAM

Thursday, March 31

A. M.  
8:00 Registration.  
10:00-2:30 Reception Committee provides coffee, cars for shopping and sightseeing.  
P. M.  
3:00-4:30 Tea, sponsored by Rockford Auxiliary Unit.  
5:30 Participate in Men's program.

Friday, April 1

A. M.  
8:00 Registration.  
9:00 Bus trip to Wagon Wheel Lodge for breakfast and program.  
11:00-4:30 Sightseeing trip through J. L. Clark Mfg. Co. and lunch in this unusual plant. Riverdahl School Engineering exhibit.  
P. M.  
5:30 Participate in Men's program.

Saturday, April 2

A. M.  
9:30 Informal breakfast.

## ANNUAL MEETING—LAST-MINUTE FLASH

Confirmation has come from General Motors that Dr. Kenneth McFarland, lecturer and economic consultant, will be the banquet speaker at the 70th Annual Meeting on Friday, April 1st, in Rockford.

To those who have heard Dr. McFarland, this news means that they will anticipate the thrill of hearing him again. To those who have not yet heard him, they have a real treat in store for them. If the 70th Annual Meeting needed further embellishment, this announcement is it. The Rockford meeting will be an all-star entertainment.

## ANNOUNCEMENT OF THE C. C. WILEY TRAVELING AWARD IN HIGHWAY ENGINEERING

Announcement is made that an Illinois highway contractor has provided funds which will permit granting an annual award of \$1200 to a senior student in highway engineering at the University of Illinois for travel in the United States to study and report upon highway design and construction as carried out by the various states. The award has been named in honor of Professor C. C. Wiley, nationally-recognized highway engineer, who retired at Illinois in 1952 after 46 years on the staff.

The award is to be based principally upon the excellence of a design project carried out by students in the senior highway design course in the Department of Civil Engineering, with some consideration being given to scholastic standing and demonstrated interest and ability to profit from the travel proposed. The winner is to be selected and the award administered by a committee of five persons, three to be staff members of the College of Engineering of the University of Illinois and two to be alumni of the University of Illinois.

The winner of the award shall travel, probably by automobile, for a 2½ to 3 months' period during the summer after receiving the award. He is to visit state highway departments and highway construction projects, interviewing persons in charge and noting the outstanding features and difficult problems of design and construction. He shall submit an informal report to each member of the committee monthly and a final and complete written report at the termination of the travel. One hundred dollars of the award money shall be withheld until the final report is submitted. Approximately one hundred dollars of the award money shall be used for photographs of the projects visited and these photographs shall become the property of the Department of Civil Engineering for instructional purposes. The travel shall cover the major areas of the United States—Midwest, West, South and East—insofar as time will permit.

Highway transportation is a major industry in the United States today. Billions of dollars are going to be expended in the next few years to provide the highways and streets needed for safe and convenient travel. A primary problem in this construction program is how to secure the services of an adequate number of competent highway engineers to assure effective use of the money to be made available. More capable young engineers must become interested in the opportunities in highway engineering as a career. This Traveling Award may serve to stimulate interest and to provide an appreciation of our national highway situation for a few young men with the result that they will devote their abilities and add their breadth of view to the solution of our highway problems.

The first of these Traveling Awards will be granted in June of 1955.

## ILLINOIS ENGINEERING COUNCIL ANNOUNCES OFFICERS

At the annual meeting of the Illinois Engineering Council held recently in Chicago, W. R. Marston, Deputy Traffic Engineer for the City of Chicago and Director from the Western Society of Engineers, was elected President for 1955. The Council is composed of Directors from 16 Engineering Societies throughout the state, which represents over 12,000 engineers.

Other officers and their affiliated societies are: Ellis Danner, First Vice President, Director from American Association of Engineers; Daniel K. Chinlund, Second Vice President, Director from the Chicago Section of the American Institute of Electrical Engineers; and John G. Duba, Secretary-Treasurer, Director from the Illinois Society of Professional Engineers.

Members of the Executive Committee are: John A. Harrington, Director from the Illuminating Engineering Society; E. R. Hendrickson, Director from the Western Society of Engineers; and J. S. Martin, Director from the Central Illinois Section of the American Institute of Electrical Engineers.

The purposes of the Council are to further the public welfare wherever technical and engineering knowledge and experience are involved, and to consider and act upon matters of common concern to the Engineering and Technical professions.

## NATIONAL ANNOUNCES MEETING IN ILLINOIS 1955 State Presidents' Conference

The annual NSPE State Presidents' Conference will be held this year at *Allerton Estates, Monticello, Illinois*, March 18 and 19. The estate is the former home of a wealthy Chicago executive, which has been turned over to the University of Illinois, and was suggested by the Illinois Society for our meeting since it provides a congenial atmosphere for the exchange of ideas and discussion of mutual problems. This site will provide adequate sleeping accommodations for the size group involved in our State Presidents' Conference. About the first of February, detailed transportation schedules will be forwarded to each State President.

The purpose of the State Presidents' Conference is three-fold: (1) To permit an exchange of State Society administrative experiences; (2) to better acquaint the State Presidents with professional society philosophy and programs; and (3) to provide State Presidents an opportunity to pose questions arising in the State Society on which other states may have had experience.

Be generous with kindly words, especially about those who are absent.

Every day look at a beautiful picture, read a beautiful poem, listen to beautiful music, and, if possible, say some reasonable thing.

—Goethe.

# The Professional Development of Technical Men

R. J. S. PIGOTT, Consulting Engineer  
Past President, A. S. M. E. \*

The last war and conditions since then have shown us plainly that the development of a young man into a good engineer, chemist, or pure scientist begins much earlier than his formal technical education in college. In many cases an interest in science or engineering develops as early as ten or twelve years of age. This interest does not necessarily imply talent. However, since we shall definitely be short of technical graduates for a period of at least ten years, this early indication may be valuable in increasing enrollment in technical schools.

The grade school and high school have some influence since the character of the teaching varies very greatly. One thing appears evident—our present-day grammar and high schools are not teaching as well as they did 50 years ago. Our children, as a rule, do not spell or figure as well as their parents and do not now appear as well grounded in history, geography, or languages. Something will have to be done to get the three R's back in place, with less time wasted on "frill" subjects.

At the high school level, the Engineers Joint Council has been carrying on a definite campaign to interest students in a technical career, to increase the output of engineers four or five years from now. In the home, the father's profession usually has considerable influence on the son—if he is an engineer the son is likely to be strongly pointed toward the same line, since the father's interests, conversation, and usual circle of friends will all lead him in that direction.

The young man's own general attitude may influence his choice—whether he is curious and wants to know why and how things work, wants a reputation, or wants to make money. In the first and second cases, he may be good engineer material; in the third, he will probably avoid engineering. I usually rate engineering, management, sales (and advertising), and financial occupations in a rising scale of reward for the effort. We are becoming conscious that the first two have been underpaid for their results, and the last two, much overpaid. The present shortage of engineers will help to readjust that situation.

## Technical Education

Our technical institutes and colleges have had hard going for a generation because of the increasing demand for specialized courses, often in greatly narrowed fields of engineering or pure science. The result has been too many courses and not enough basic material, making the teaching difficult.

Many colleges have tried courses up to six years long, but for practical reasons, these are far from satisfactory. Four is about all we can really afford, except for advanced degrees, which are chiefly useful for pure science and chemistry, but of very little use in engineering. I feel we need to return to the three R's of technical education—physics, chemistry, and mathematics—and eliminate cultural fringe material. In this way, we can do a good *technical* job in four years. In the curriculum we need only divide engineering into the four major groups: civil, mechanical, electrical, and chemical, putting different emphasis on the three basic subjects to suit each course. Practical application should be largely completed in summer sessions. After a graduate has had his four years of basic technical education, coupled with practical application every summer and five years of earning money in an engineering job, he can specialize in any line he wants in six months. It is much better done on the job in a company interested in a particular specialization than anywhere else.

The principal objective of technical education, other than injecting a quantity of basic facts, is to teach a student to reason—or at least to begin to. Nearly all primary education is memory exercise with very little reasoning involved. But to make a sound technical mind, we need not only the basic memory material, but the ability to reason from these facts to a conclusion—very often a new conclusion.

The practical work in college should form the link between the classroom and the factory illustrating application of theory. An engineer ought to have enough shop, power-plant, and construction work to teach him to use his hands, and to set his mind to solving problems by reasoning from his theoretical studies.

## The Professional Attitude

There is no yardstick for mental performance—one can judge only by final results. Technical work is nothing like that of the skilled artisan—so many bricks per day, so many pieces per hour, so many feet of weld—consequently, it is extremely difficult to set a standard for performance when the only criterion is judgment applied to a completed task, which may have taken from a few days to many months. This reveals one of the main differences between a profession and a craft.

Since the technical man deals almost exclusively with facts and laws of physics, he has an automatic training in strict honesty. The "artistic conscience" still persists in all scientific and engineering work although it has almost disappeared in many other lines of endeavor.

Another characteristic of the technical professional is that of completing a task regardless of the reward.

\*Reprinted by permission from the *Bulletin* of December, 1954, monthly publication of the American Society for Testing Materials.

## Mental Development

The technical school is assumed to have started the technical man thinking for himself. If it has been at all successful, there is little doubt he will continue to do so. We expect practical experience after formal education to develop judgment and analytical faculty. Both are needed in the approach to any problem, whether of operation, process, or research.

One of the most important initial steps in any problem is to define it—what is the basic factor, what is the scope? With the definition laid down, the next step is almost automatic—to search the memory for experience on similar problems, thus laying out a plan of attack. If previous lines of attack have not been wholly satisfactory, it is necessary to use imagination and synthesis, to devise or invent new ways of solution. Initiative in working up lines of attack and decision in choosing the best lines must come along with analytical faculty, judgment, and imagination. We have all seen the young engineer, who freely produces several methods or designs for the solution of a problem, then cannot decide which one to use. It is also important to know when to *stop* improving a process or design, and put it into effect. For example, the first 15 years of commercial use produced 80 per cent of the gain in the Btu rate in steam turbines and internal combustion engines; the next 30 only advanced it the remaining 20 per cent, at a cost higher than the earlier 80 per cent.

## Administration

For the development of analytical powers, judgment, decision, and imagination, the work itself is the best teacher, but the superior can greatly accelerate their development and increase the quality and quantity of the work of a subordinate. The influence of superiors in the development of technical men is enormous. We respond to prompt, decisive direction and we can be discouraged by vague or impatient instruction. Personal characteristics of the superior are likewise important. Good temper, humanity, friendliness, and consideration cost nothing but they can produce astonishing results in the development and output of the young engineer.

Delegation of authority is also extremely valuable in leading the young employee forward. I was lucky enough to have a first boss who had an extraordinary willingness to load me with responsibility and authority until my legs would begin to buckle, just short of folding up. He would not allow me to bring him a decision I was capable of making myself. In all technical occupations the contribution of the individual is highly personal, involving much more than a mechanical skill; therefore, responsibility and the authority to do (even if limited) are greatly valued by the recipient. Appreciation and encouragement are most effective coming from the superior.

Another and less direct effect of the supervisor's direction and instruction, likewise based on his personal characteristics, is the improvement of relations between the subordinate and his fellow workers. It is generally

true that the personal characteristics of the head of any group or division will ultimately be reflected in his entire force. Men go to school all their active lives, with the superior in their business substituted for the school instructor. So it is quite natural that the superior-teacher, *via* his mental powers as an engineer and very noticeably by his personal characteristics will mold his associates.

## National Technical Societies

One of the most valuable means of increasing technical knowledge and developing good professional attitude is work in the technical societies.

Technical committee work is a post-graduate course in technology since one finds in these committees the very best brains and the latest data. The technical papers are a mine of information, in the most reliable state, and probably the earliest—textbooks are always one or two years behind the event. Working on committees is valuable in developing a good personal attitude. The "give and take" of committee work, especially since the committees always have a large percentage of skilled and successful men (all working voluntarily), gives the younger technical man a wonderful training in the habit of cooperation, and in the "persuasive" methods of doing business.

Writing technical papers is a splendid source of training in exposition of his subject, and in addition affords the writer the satisfying feeling that his work is recognized.

## The Engineer and the Social Structure

Engineering and other technology are now so large a part of our pleasant civilized existence that it is difficult to find any class of activity contributing so much to our daily convenience. Good water supply, power, transportation, food in finished form, communication, defense, are all primarily dependent upon engineers or chemists, or both. There has therefore been a strong tendency to argue that the engineer should take a prominent part in the political life of the country. This thesis needs very careful examination.

Government undertakings that involve largely engineering such as water supply, roads, irrigation, reclamation, and public power should be handled by engineers. Most of these projects are best handled with Government by large bodies of engineers, such as our national societies. These cannot be successfully accused of bias or political intent, and contain a mass of the highest skills in the country; individual effort is, in these fields, ineffective. At the local level there is much that a local engineering society can do to help the operation of its municipality.

But all of this is impersonal, and on the engineering side; no political aspect is out in front. There are, as mentioned before, two characteristics of technical men that would be useful in government—inherent honesty and training in sound reasoning—but these are useful in any line of endeavor, and likewise are not limited to technically trained men.

There is no special reason why the engineer should enter politics *because* he is an engineer. An engineer should enter politics when he feels he has a civic duty he can perform effectively, and when he has a bent for the kind of administration required in Government—and so should any other professional.

To summarize we may perhaps say that the development of a sound attitude in any technical profession involves: (1) honesty, dealing with facts only, no tampering with the formula, (2) reasoning ability enhanced by practical experience, and considerably enhanced by sound direction from above, (3) decision and imagination—greatly aided by delegation of authority and encouragement from above, and (4) personal relations with others, very largely influenced by superiors.

From the foregoing, it becomes rather clear that the development of professional attitude in technically trained men is largely the responsibility of their superiors. Of course we have a percentage of strong minds and strong characters that can develop without much external guidance, but this does not apply to the bulk of our technical graduates. But it is apparent that character in superiors is more important than technical skill. Therefore, this one is up to management.

#### ANNUAL MEETING COMMITTEE MEMBERS ANNOUNCED

The Rockford Chapter has recently announced the names of the committee membership for the 70th Annual Meeting of the Society which will be held at the Hotel Faust, Rockford, on March 31, April 1 and 2, 1955.

*General Chairman*—W. F. Edwards, John Duguid, Assistant.

*Finance Committee*—Ted Bradley, Chairman; Jack Gibbs, Co-Chairman; Bill Howard, Jack Laswell, Rob Roy, Frank Braconier, Bengt Sjostrom, Claude Love, Skeets Roberts.

*Food Committee*—Ed Gronski, Chairman; F. Polkowski, Co-Chairman; Bengt Sjostrom and Arnold Lundgren.

*Entertainment Committee*—Sid Thorpe, Chairman; Lou Daigle, Co-Chairman; Ed. Fitzgerald; Also Ernie Storer, Sound Systems, Bengt Sjostrom and Russ Chalmers, Entertainment Arrangements.

*Exhibits Committee*—Claude Love, Chairman; Ollie Begtrup, Co-Chairman; Also Lyle Porter, Jack Graven, Paul Corbridge, Harlan Lille of Rockford, Harper Millard of Freeport, and Sam Etnyer of Oregon.

*Ladies' Auxiliary*—Mrs. Erica Schubeler, Chairman; Mrs. Royce Johnson, Co-Chairman.

*Publicity Committee*—Lou Daigle, Chairman; Ted Johnson, Morgan Hamaker, V. Schmidt, W. Rolander, G. Schroeder, B. Sorenson, C. Chapman, Todd Wisner and Theo. Hinsworth.

*Reservations and Receptions*—Bertil Anderson, Chairman; Stewart Anderson, Herman Danforth, Roger K. Erickson, Paul Gutting, Lee Moring, A. Wagstaff, Herb Flath of Rockford, Harper Millard, George and possibly Oscar Hively, and Norlin Peterson of Freeport.

*Business Program*—Royce Johnson, Chairman; Henry Riedesel, A. J. Arnold, Art Meyers, Stan Cutler.

#### EXECUTIVE SECRETARY HEARS FROM H. E. BABBITT

The following letter was received from Secretary Emeritus Babbitt. He, Mrs. Babbitt and their daughter, Ruth Benedict, are on a Mexican trip in a trailer. They entered Mexico on Professor Babbitt's birthday, January 7, at Nogales, Arizona.

Here is the letter:

Culiacan, Mexico,  
January 14, 1955

DEAR SKEET:

We're holed in at this town with the bridges out on each side of us, and no place to go. Violent rains continue and the camp gets deeper in greasy mud. That's the picture today. It was much brighter on my birthday when this impossible caravan of more than 500 house trailers crossed the border amidst the fanfare of bands, hand-shaking governors across the border, cutting a ribbon to open a new gateway, etc., etc. The first trailer crossed at 8 a.m., we got over at 10:30 a.m., and the last one cleared about noon. For the next 170 miles the caravan kept in line, everyone loved everybody else and all were happy. Our first stop was Hermosillo, capital of Sonora. The approach was really quite a sight for on the topping of a rise, one could see house trailers from horizon to horizon snaking across the Mexican desert. Hermosillo proved a most interesting place and was our first introduction to things Mexican.

Our caravan and its organization, or our operation without organization is of great interest to the Mexicans and a marvel to me. Of course, in such a large group there are many troubles but so far as I know not an accident in the bunch. The usual "stinkers" show up quickly and the "love feast" was quickly over. Our main roads were excellent to this town but we made one detour or side trip of 36 miles over an execrable road (to Alamos) where many were stuck in the mud and had to be hauled out by the tow car that goes with us. Bad luck has overtaken the whole caravan here. For the first time since 1946 they are having heavy rains in January. Our camp site has turned into a bog. The rivers are up and the bridges are out ahead of us. In fact, our camp is now so muddy that we can't even get our car out, and the Mexican people are supplying us with a bus line to carry us back and forth to the business center about a mile away. Trying to do business by signs, pointing, grunts and gesticulations is an ordeal—yet we manage to eat although we may not get what we want. Prices are low, relative to ours, but quality not too good. Mail does

not seem to be coming through and it worries me. If you write, use air mail—it seems to come through much better. Regards.

H.E.B.

Mrs. Babbitt says in part as follows:

DEAR JESS:

We are having all sorts of thrills and privileges that the tourist traveling alone doesn't have. For instance, when we make camp in a new location the officials come to our meetings which are usually held at 5 o'clock. They welcome us, sometimes through an interpreter and sometimes in carefully-selected English. Sometimes we file by and shake hands. At Guaymas the camp had a pot-luck dinner—many thought that it couldn't be done but it went off as well as any church pot-luck I ever saw. Each trailer was to bring their own service and drink. Late in the afternoon the commissioner called us to a truck to get our fish (red snapper). We had to clean them and cook them—and cook them for ourselves. We had two given us, weighed four pounds with heads and tails on, and were they good! When we registered we paid \$2.50 each into a "kitty"—fish, rolls and little Mexican cakes were bought from this, also tomatoes. Ruth was one of 30 to peel the tomatoes. They asked 200 trailers to furnish starch dishes such as scalloped potatoes, rice dishes, macaroni or potato salad and 200 to bring hot vegetables. The whole 1500 turned out and it went off without a hitch and there was plenty for everyone, and like church suppers, they sold the surplus cakes and rolls and put the money back in the "kitty." The trailers were parked like the old covered wagon corrals with a big hollow circle in the middle which is called the Civic Center. Photographers for *Life* Magazine came down and flew over the camp taking pictures. It must have been spectacular with a huge camp-fire burning in the middle and the trailerites eating at card tables around the ring. Then the photographer asked each one to strike a match—it was a fantastic sight. They said that these pictures should be in *Life* within three or four weeks. Later that same night, two cars of musicians rode through the lanes serenading and stopped in the center and gave a beautiful concert. Everyone had gone to bed but they encored from the trailers. The 100 trailers that didn't contribute are to do something else later. From Harold's letter you'll see that life isn't all joy, it is still pouring rain—something most unusual for January here. The last time that it rained here in January was 1946. I could write on but it is time to turn in.

ELMA.

### FIRST CHICAGO CHAPTER BANQUET

The first Annual Banquet of the Chicago Chapter, I.S.P.E., was held in the Walnut Room of the Hotel Bismarck on January 13 at 6:30 p.m. There were 186 members and guests present.

George L. DeMent, National Director, was toastmaster for the evening. He introduced the Reverend John Bellingham, pastor of the Park Ridge Presbyterian Church,

who pronounced the invocation. K. C. Hoeglund, outgoing President of the Chicago Chapter, gave an address of welcome. Mr. DeMent then introduced V. E. Gunlock, Vice President of the Central Region of N.S.P.E.; John Dolio, Chicago Chapter Representative of I.S.P.E.; E. I. Fiesenheiser, the outgoing Chicago Chapter Vice President, and Allen Drachman, the outgoing Secretary-Treasurer.

In a brief ceremony, new officers for 1955 were inducted. K. C. Hoeglund gave the charge and H. F. Sommerschild, President-elect, the response. John Duba, Secretary-Treasurer-elect, was introduced, and it was announced that A. W. Graf, Vice-President-Elect, was hospitalized and could not attend.

The 'Roundtowners Quartette rendered several numbers and each member of the quartette sang a solo. Mr. Andre Mouton, Midwestern Representative of the Port of New Orleans Authority, then gave an entertaining talk entitled "Story of the Cajuns."

### SEVENTH ANNUAL CHAPTER OFFICERS CONFERENCE

The Seventh Annual Chapter Officers Conference was held at the Jefferson Hotel in Peoria on Saturday, January 29. As usual, the Illinois Society president, Mr. Klassen this year, set the theme of the meeting and laid out the objectives. President Klassen called particular attention to the increased interest in chapter participation during National Engineers' Week. The celebration will be held this year between February 20 and 26.

Vice-President Wallace gave an interesting talk on "Making Your Chapter Vice-President Work." Secretary-Treasurer Spicer spoke on the duties of the chapter secretary.

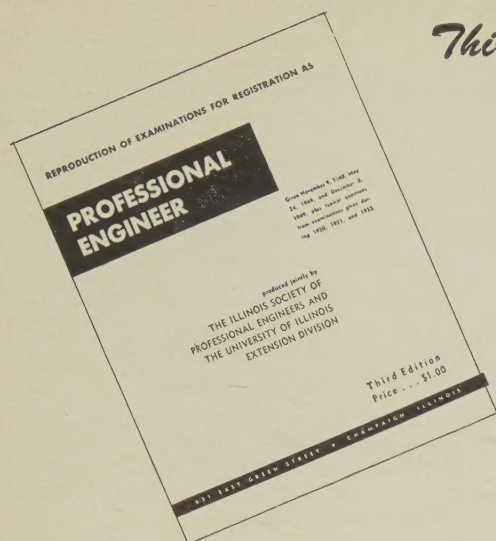
An innovation this year was Vice-President-Elect Johnson's remarks on how chapter officers can increase attendance at the Annual Meeting. Mr. Johnson informed the chapter officers about some of the excellent features of the 70th Annual Meeting program.

Editor Oliver, who is a veteran of these conferences, told how chapters could make better use of the *Illinois Engineer*. He called attention to the fact that the *Illinois Engineer* is not only a means of communication, but it also serves as a historical record, not only of the Society, but also of chapter activities.

Executive Secretary Roberts spoke briefly about the use of the chapter handbook and about membership campaign ideas.

The afternoon was devoted to a general discussion and to the presentation of new ideas by chapter officers. These conferences, which are now a yearly event, are the most valuable way of helping new chapter officers with the duties of their office.

Chinese proverb: "A lie has no legs, and cannot stand; it has only wings, and can fly far."



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### RESULTS OF THE 1955 ELECTION OF OFFICERS

The polls closed January 15 at 5 p.m. for the election of the Illinois Society officers who will take office on April 2, 1955 and serve until the end of the 71st Annual Meeting. Mr. Dwain M. Wallace was elected President and Mr. Royce E. Johnson was elected Vice President. Of the nearly 550 votes cast, there were only seven write-in ballots received. Tellers Committee: M. H. Kinch, Gordon V. Carlson, and C. Dale Greffe.

### EDITORIAL FROM "RAILWAY AGE"

In the person of William B. Given, Jr., chairman of the American Brake Shoe Company, the railroad supply industry has one of the country's outstanding leaders in the art known as "executive development"—the selection and training of competent men for positions of responsibility in industry. Mr. Given is not only an able practitioner in this important area but, just as important, he is able to pass along what he knows to other people; and has frequently done so by speech and the printed word.

For example, in a recent issue of the *Harvard Business Review*, Mr. Given has an article entitled "Engineers in Management." Drawing upon the experience of his own company, he relates that, years ago, this company was proud of the fact that it had *one* engineering graduate on its management team. At that time, the company was able to get along very well on what Mr. Given calls "barnyard products."

Now, the picture has changed. Of 25 top managerial positions in the company, 15 are held by graduate engineers, and 6 more of the 25 have some engineering training. The engineer is now definitely recognized as having an important place—arithmetically, perhaps, *the* most important place—in the management of large enterprises; but at this point Mr. Given comes along with a word of caution. He quotes a Westinghouse officer as follows:

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### BITUMINOUS PAVING

"Many engineers do not believe in the importance of things which cannot be measured—such things as attitudes, emotions, customs, traditions, prejudices. As a consequence they fail to deal with those things which cannot be solved by logic alone. Yet the non-logical (not illogical) is the crux of most business."

Then Mr. Given goes on to say: "Many times problems arise either in human relationships or in probing into the unknown when an imaginative approach becomes much more important than an analytical or judicial one. Guesses and hunches become necessary. Attempts to depend on charts and formulas rather than on intuition and judgment can often lead to a wrong answer." He quotes one of his associates as saying that, in addition to his technical competence, the engineer needs to acquire humility—to overcome his tendency to overestimate the "invincibility of the scientific method."

The biggest reward for a thing well done is to have done it.

It is not only what we do, but also what we do not do, for which we are accountable.

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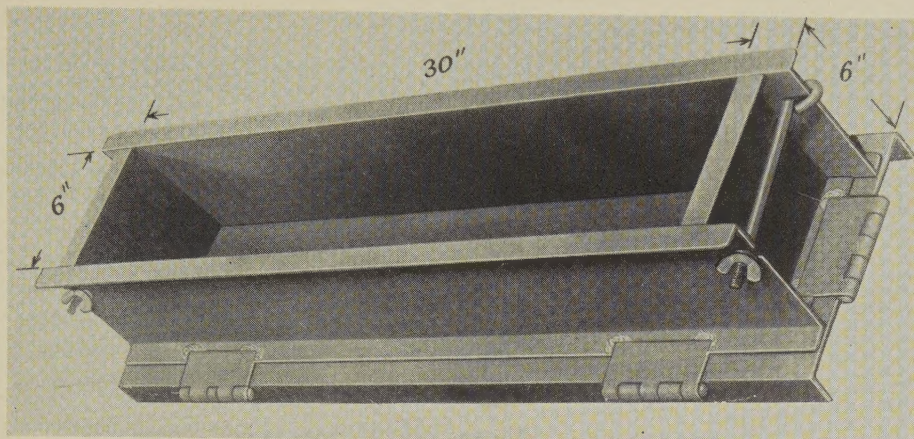
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I hold every man a debtor to his profession;  
 from the which as men of course do seek to re-  
 ceive countenance and profit, so ought they of  
 duty to endeavor themselves by way of amends  
 to be a help and ornament thereunto.

Sir Francis Bacon

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The cost of living correction factor to be applied to the I.S.P.E. Schedule of Minimum Fees and Salaries is based upon the Consumer Price Index of the 1947-49 average as determined by the Bureau of Labor Statistics. On the 1947-49 base the correction factor for December, 1954, is 114.3.



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### OVER THE MANAGER'S DESK

*The week of Washington's birthday has been set aside as Engineers' Week as a tribute to his engineering accomplishments. As an employer, can you set February aside as a month of engineering accomplishment with a full and qualified enrg. department? If not, give us your job specifications and let us help you.*

*If you or any engineering friend do not feel you are accomplishing the things in engineering you think you should be, better get registered with us now and see if we can get you in a spot where accomplishment is possible.*

B. H. A.

### MEN AVAILABLE

**Research and Development.** 48. Twenty-five yrs. home study in science and physics. Inventive gadgeteer with experience in instruments, valves, and electronic devices. Some patent work. U. S. \$6000. 79 PE

**Designer.** M.E. 28. Five yrs. supervision of design of heating eqpt., forced circulations, automatically controlled, steam generators. Midwest. \$6500. 61 PE

**Physicist.** M.S. Physics. 31. Eighteen mos. building an analogue computer for automatic operation. Three yrs. design, development, research and analysis of microphone and microwave. \$6400. Chicago. 62 PE

**Market Analyst.** M.B.A. and Chem. 27. Two yrs. in market surveys and analyses of raw materials, production costs, competition and market potentials. 7 mos. plastic research. 63 PE

**Sales Engr.** Mar. Eng. 29. Ten mos. appl. and estim. engr. on packaged boilers and allied eqpt. 32 mos. engineering officer on floating Naval power plants. \$4300. Chicago. 64 PE

**Office Engr.** E.E. 49. Twelve yrs. application engineer making quotations and act as liaison with customers and salesmen for regulator and instrument mfr. 12 yrs. salesman for a utility. \$8000. Chicago. 65 PE

**Sales Engineer.** M.E. 30. Four yrs. handling the complete sale of filtering equipment. Two yrs. inspection, maintenance and design of refinery eqpt. Chicago. 66 PE

**Plant Engineer.** M.E. 31. Four yrs. acting as consultant on radiant heating and snow melting systems, corrosion problems. One yr. maintenance engineer on utility eqpt. \$6000. Midwest. 67 PE

**Production Engr.** B.S.R.E. 27. Twenty-three mos. setting up procedures, improve efficiency and checking quality of product on

radio and TV tube eqpt. \$6000. Midwest. 68 PE

**Ch. Engr.** B.S. Mechanics. 35. Five yrs. product development, tool and die design and estimating. Two yrs. established machine shop for new rubber product production. Two yrs. plant rehabilitation for tool mfr. \$10,000. Midwest. 69 PE

**Ind. Mgmt. Engr.** I.E. 32. Four yrs. staff asst. for dept. store. Twenty mos. taking time studies and develop stds., methods, and estimate material and labor costs. \$7000. Chicago. 70 PE

**Field Engr.** C.E. 29. Five yrs. bridge construction engr., doing field enrg., cost distribution, quantity takeoff, design of forms and highway design. \$6000. Chicago. 71 PE

**Designer.** E.E. 41. Eighteen yrs. layout and design of electrical systems, including distribution, control lighting; and electrical and hydraulic testing. \$6500. Midwest. 72 PE

**Traffic Engr.** C.E. 29. Three yrs. prepare designs for major highways. Six mos. prepare designs for foundations and light refinery eqpt. Three yrs. supervise design constr., erection and maint. of safety devices. \$7200. Chicago. 73 PE

### POSITIONS AVAILABLE

**Estimator Trainee.** Age 30 yrs. plus. 2 plus yrs. exp. in die design of general mechanical design, preferably progressive dies. Duties: training as an estimator and eventually head up department for job shop stamping operations. For a stampings mfr. Sal.: \$100-\$150 per week. Employer will pay fee. Loc.: Chicago. C-2517

**Engine Designer.** Age: up to 55. 3 plus yrs. in designing or developing heavy internal combustion engines. Duties: project work designing and developing heavy internal combustion engines. Some field work and contact with customers. Will understudy Chief Engineer. For an engine manufacturer. Sal.: \$7200 per yr. Employer might negotiate fee. Location: Iowa. C-2518

**Time Study.** I.E. or M.E. Age: 35 yrs. plus. 3 plus yrs. exp. in setting standards from time studies. Duties: supervising building up of standards from raw data, carrying out installation of wage incentives, analyzing statistical data for cost studies and providing data for wage administration on foundry, machine shop, assembly, painting, packaging, receiving, stores, and maintenance operations for a mfr. water service products. Salary: \$500 per mo. Loc.: Iowa. C-2523

**Aircraft Design Engrs.** A.E. M.E. E.E. C.E. Recent graduates or better with knowledge of aircraft and aircraft eqpt. Duties: designing aircraft, aircraft structures, components, stresses, fuel systems, power plant cowlings, electrical installations and/or electronic installations. For a mfr. of aircraft. Sal.: Up to \$770 per mo. depending on experience. Location: Kansas. C-2527

**Chief Staff Mech. Engr.** M.E. Age: Up to 40. 5 plus yrs. exp. in supervisory plant maintenance work in multi-plant organization, preferably heavy chemical, steel or mining company. Knowledge of heavy process equipment. Duties: serve as staff consultant on all mechanical and plant engineering problems and eqpt. for a multi-plant in heavy chemical and processing field. For mfr. of minerals. Sal.: \$10,000-\$12,000. Employer will negotiate fee. Considerable traveling. Location: Chicago. C-2531(a)

**Area Supervisory Plan Engineer.** Chem. Eng. Age: Up to 40. 4 plus yrs. exp. in supervising plant enrg. activities in heavy chemical or processing plants. Duties: supervise plant engineering and processes and maintenance of eqpt. for a heavy chemical and mining operation. For a manufacturer. Sal.: \$6000-\$7000 per yr. Employer will negotiate fee. Location: Florida. C-2531(b)

**Plant Manager.** Age: 40-55. 5 plus yrs. exp. in plant management at top level covering both mass and job shop steel and metal fabrication. Knowledge of planning and controlling all phases of mfg. Duties: assuming all resp. for factory operations, industrial enrg., production and material control, quality control, purchasing and plant enrg. For a mfr. of auto heaters. Salary: \$15,000-\$20,000 per yr. Loc.: Indiana. C-2550(a)

**Quality Control Engineer.** Age: 30-45. 3 plus yrs. exp. in statistical quality control and inspection in light sheet metal fabrication or similar field. Duties: develop and maintain inspection plan, interpret enrg. specifications and standards, decide on acceptance or rejection of sub-standard items, maintain production and inspection standards, advise inspection personnel on methods and allied duties. \$550-\$650 per month. For mfr. of auto heaters. Location: Indiana. C2550(b)

**Metallurgist.** Met. or Met. Eng. Age: up to 32. Recent graduates or better. Knowledge of steel mill operations desirable. Duties: training for management work in steel mills. For a manufacturer of steel. Salary: \$580-\$425 per month. Loc.: So. Chicago. C-2555 (b)